REMARKS

By this Amendment, Claims 50-53, 55-63 and 65-71 have been cancelled without prejudice to or disclaimer of the subject matter contained therein, and new Claims 72-93 have been added, leaving Claims 72-93 pending. Claims 72-93 are directed to an inductively coupled plasma processing system, i.e., the same invention as recited in cancelled Claims 50-53, 55-63 and 65-71. Reconsideration of the December 8, 2003, Official Action is respectfully requested.

1. Rejections Under 35 U.S.C. § 103

A. Claims 50-53, 55-58, 60-62 and 65-71 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,522,934 to Suzuki et al. ("Suzuki"). As Claims 50-53, 55-58, 60-62 and 65-71 have been cancelled, the rejection is moot.

B. Claims 59 and 63 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Suzuki in view of U.S. Patent No. 5,851,294 to Young et al. ("Young"). As Claims 59 and 63 have been cancelled, the rejection is moot.

2. New Claims

Independent Claim 72 recites an inductively coupled CVD plasma processing system, which comprises "a plasma processing chamber; a dielectric window forming a top wall of the plasma processing chamber; a substrate support adapted to support a substrate within the processing chamber; and a plurality of injector tubes adapted to introduce process gas into the processing chamber, all of the injector tubes being spaced outwardly from the periphery of the substrate when the substrate is supported on the substrate support" (emphasis added). Support for the subject matter recited in Claim 72 is provided, for example, in FIG. 5, which shows a tubular

injector, and at page 12, lines 22-24, of the specification. The recited "plasma processing chamber" is a vacuum chamber. See, for example, page 6, lines 16-18, of the specification. As explained at page 12, lines 24-25, the recited injector tubes can ensure that any potential particle flakes from them do not fall onto a substrate supported on the substrate support and contaminate the substrate.

It is respectfully submitted that Suzuki and Young both fail to disclose or suggest the combination of features recited in Claim 72, including at least the features of "a dielectric window forming a top wall of the plasma processing chamber" and "a plurality of injector tubes adapted to introduce process gas into the processing chamber, all of the injector tubes being spaced outwardly from the periphery of the substrate when the substrate is supported on the substrate support."

Dependent Claims 73-83 recite additional combinations of features that further patentably distinguish the claimed system over Suzuki and Young. For example, Claim 73 recites the features that "the injector tubes are provided on a first gas ring; at least some of the injector tubes include an orifice oriented relative to the axis thereof to direct the process gas in an upward direction away from the substrate when the substrate is supported on the substrate support; and at least some of the injector tubes are oriented in the plasma processing chamber to direct the process gas along axes that intersect an exposed surface of the substrate at an acute angle when the substrate is supported on the substrate support" (emphasis added).

Claim 75 recites the feature that "all of the injector tubes include an orifice oriented relative to the axis thereof to direct the process gas in an upward direction away from an exposed surface of the substrate when the substrate is supported on the substrate support." As explained at page 13, lines 22-24, the recited injector

tubes can provide high deposition rates and good uniformity, as well as reduce potential clogging, which improves wafer processing throughput.

Claim 76 recites the feature that "the injector tubes are detachably connected to a first gas ring made of aluminum which includes outlets adapted to supply process gas into the plasma processing chamber" (emphasis added). Support for the subject matter recited in Claim 76 is provided at page 11, lines 25-26, and page 12, lines 13-14, of the specification.

Claim 78 recites the feature that "a plurality of gas flows from the injector tubes overlap each other in a plane parallel to an exposed surface of the substrate when the substrate is supported on the substrate support."

Claim 79 recites the feature that "each of the injector tubes includes an orifice, and each of the orifices is spaced the same distance from substrate when the substrate is supported on the substrate support."

Claim 81 recites that "all of the injector tubes have the same length such that exit orifices of the injector tubes are spaced the same distance from the periphery of the substrate when the substrate is supported on the substrate support,'" and Claim 82 recites that "some of the injector tubes have different lengths such that exit orifices of some of the injector tubes are spaced a different distance from the periphery of the substrate when the substrate is supported on the substrate support." Support for the subject matter recited in Claims 81 and 82 is provided at page 12, lines 25-27, of the specification.

Claim 83 recites the feature that "all of the injector tubes are spaced outwardly from a periphery of the substrate support." Support for the subject matter recited in Claim 83 is provided in Figure 4.

Independent Claim 85 recites an inductively coupled plasma CVD processing system, which comprises "a plasma processing chamber; a dielectric window forming a top wall of the plasma processing chamber; a substrate support supporting a substrate within the processing chamber, the substrate support including means for maintaining the substrate support at a desired temperature; and (i) a plurality of injector tubes each including an orifice oriented relative to the axis thereof to direct the process gas in an upward direction away from the substrate when the substrate is supported on the substrate support; and/or (ii) a plurality of injector tubes each oriented in the plasma processing chamber to direct the process gas along an axis thereof that intersects an exposed surface of the substrate at an acute angle when the substrate is supported on the substrate support" (emphasis added). Suzuki and Yoúng both also fail to disclose or suggest the combination of features recited in Claim 85.

Dependent Claims 86-93 recite additional combinations of features that further patentably distinguish the claimed system over Suzuki and Young.

Therefore, the system recited in Claims 72-93 is believed to be patentable.

3. Conclusion

For the foregoing reasons, withdrawal of the rejections and prompt allowance of the application are respectfully requested. Should there be a need to discuss this application, the undersigned attorney may be contacted at the number given below.

Respectfully submitted,

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